

THE ECHINODERMS NEWSLETTER

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The Echinoderms Newsletter was founded in 1968 by David L. Pawson and Maureen E. Downey of the Smithsonian Institution. They were responsible for the previous eleven issues. Workers with echinoderms, and indeed those who work with all invertebrates, owe them a tremendous debt for the contribution which the newsletter has made to the field.

The newsletter generally contains information concerning meetings and conferences and publications of interest to echinoderm biologists, titles of theses and dissertations on echinoderms, and research interests and addresses of echinoderm biologists. To insure inclusion of journal articles in the newsletter, authors are requested to send titles or reprints to the editor.

Suggestions and requests from individuals can be addressed to the entire echinoderm biology community through the newsletter.

The newsletter is not intended to be a part of the scientific literature, and should not be cited, abstracted, or reprinted as a published document.

International Echinoderms Conference--Tampa Bay (1981)

The international echinoderms conferences began with the Smithsonian meeting in 1972. At that conference, participants voted to have subsequent international meetings every three years, with the site to be changed between the Americas, Europe, and the East. The 1975 conference was in Rovinj, Yugoslavia, and the 1978 conference was in Sydney, Australia. The 1981 conference at Tampa Bay was attended by 157 persons from 29 countries. 113 presentations were made on all aspects of echinoderm biology. Participants at the conference voted to accept the invitation of Brendan Keegan for the 1984 conference to be in Galway.

International Echinoderms Conference--Galway (1984)

The 1984 conference will be in Galway, Ireland. The organizing chairman will be Brendan Keegan (Zoology Department, University College, Galway). The meeting is tentatively scheduled for September, immediately before the European Marine Biology Symposium. The second notice for the meeting and call for papers will be made in the July 1983 Echinoderms Newsletter.

INTERNATIONAL ECHINODERMS CONFERENCE, 1984

Dr. Brendan F. Keegan notes that the 1984 Conference will be held at GALWAY, IRELAND, on September 24-29, 1984. Further information can be obtained from:

The Secretary,
Echinoderms Conference,
Zoology Department,
University College,
(Nun's Island),
Galway, Ireland.

Abstracts of contributed papers should be submitted by March 31, 1984.

COMPUTER CATALOGUE OF ECHINODERM TYPE SPECIMENS, USNM

The echinoderm type specimens in the USNM, Smithsonian Institution, are now computerized! If you are interested in finding out what types we have in a certain taxon, or from a certain expedition or author, please write to me. We should be able to supply printouts at very low cost.

Maureen E. Downey.

PUBLICATION DATES FOR SOME LJUNGMAN PAPERS

In a paper entitled "Förteckning öfver ut Vestindien af D. A. Goës samt under Korvetten Josephinas expedition i Atlantiska oceanen samlade Ophiurider", A.V. Ljungman described 18 new ophiuroid species and several new genera and varieties. The new taxa and the reference are constantly cited as Ljungman, 1871 in the echinoderm literature, probably because of the journal's title "Ofversigt af Kongl. Vetenskaps-Akademiens Forhandlingar, 1871". The volume was, however, published in 1872. I am not yet aware of any changes in priority of names that should be made, but merely wish to inform other systematists of the error in the publication date. Kathe Jensen and Gordon Hendler have suggested to me that other works of Ljungman and other Scandinavians might be regularly cited incorrectly because of publication of a year's proceedings in a subsequent year or separately over several years.

Richard L. Turner
Florida Inst. of Technology

John Binyon, 1930-1983

John Binyon died of a heart attack on 24th January 1983. He was a familiar figure at several of the international echinoderm conferences, starting with the Washington meeting in 1963, then Rovinj (1975), Brussels (1978), and he was present at Tampa Bay in 1981. John graduated, and took his Ph.D., from Queen Mary College, London, where his lasting interest in comparative physiology, particularly of echinoderms, was fostered by J.E. (now Sir Eric) Smith. He had a year as a school-master before being appointed to the teaching staff of Royal Holloway College, London, where he served until his death.

John always regarded himself as a physiologist first, who happened to work on a mainly stenohaline and easily obtainable echinoderm, the boreal starfish Asterias, and much of his published work was in the field of salinity adjustment in this animal. He worked for a few weeks every year at the Laboratory of the Marine Biological Association at Plymouth, and published several papers in their house-journal. His book, *The Physiology of Echinoderms*, came out in 1972, and it rapidly established itself as a reliable source of information, background, and references.

John often floated novel ideas. Like so many others before him, he was fascinated by the functioning of the echinoderm water-vascular system, particularly the madreporite. In 1964 he put forward the suggestion, not yet followed up, as far as I know, that the hydropore might be a pathway for chemical triggers that induce spawning, that a pheromone might excite the head-piece of the axial organ and thence, by way of the genital rachis, the gonads. A second idea involved the method by which the water-vascular system is topped up, the madreporite having been virtually discounted as a point of inflow. In a paper in 1976 he put forward the suggestion that potassium is implicated in an active pump within the tube-foot wall, and added a note to me with a reprint of his paper saying how ironic it was that while his own paper was in press he had been asked to referee another showing the existence of a potassium pump in the tube-foot integument.

John had suffered from Addison's Disease for a number of years, but had never allowed this to spoil his enjoyment of life, as anybody will testify who has been taken by him to be shown a favourite hostelry or a new eating place. Characteristically, as his wife Pam has remarked, he had enjoyed a Burns Night party at his college on 21 st January, and was taking his family home when he became ill. John confided to Pam, to whom our thoughts go now, that he did not expect to survive, and indeed, he suffered a second and fatal attack within a couple of days.

John's jovial and sociable personality made him a splendid companion wherever echinoderm workers met together. His slow, clipped cockney accent recounted many a story with relish, and his obvious enjoyment of life was infectious. The pity is that his own was cut short so early; he will be greatly missed.

David Nichols

Exeter, 1 March 1983.

Echinoderms. Notes for a short course. T. W. Broadhead and J. A. Waters (eds.)
Department of Geology, University of Tennessee, Knoxville. Studies in Geology 3.
(1980)

Myer, D. L. Ecology and Biogeography of Living Classes.
Sprinkle, J. An Overview of the Fossil Record.
Lewis, R. Taphonomy.
Broadhead, T. W. Biostratigraphic Potential.
Ausich, W. I. Synecology - Niche Differentiation.
Waters, J. A. Echinoderms and Aspects of Evolutionary Theory.
Sprinkle, J. Early Diversification.
Haugh, B. N. and B. M. Bell. Classification Schemes.
Parsley, R. L. Homalozoa.
Broadhead, T. W. Blastozoa.
Marcurda, D. B., Jr. Blastoidea.
Parsley, R. L. Paracinoidea.
Lane, N. G. and G. D. Webster. Crinoidea.
Bell, B. M. Edrioasteroidea and Edrioblastoidea.
Pawson, D. L. Holothuroidea.
Branstrator, J. W. Paleozoic Asterozoa.
Blake, D. B. Post-Paleozoic Asterozoa.

Echinoderm Studies (volume 1). M. Jangoux and J. M. Lawrence (eds.).
A. A. Balkema, Publishers. Lissleplein 11, P. O. Box 1675, BR Rotterdam,
The Netherlands (in press).

A series of reviews in all aspects of echinoderm biology.

Campbell, A. C. (Queen Mary College, U.K.). Form and function of pedicellariae.
Craig, S. P. (Univ. of Southwestern Louisiana). Genomic variability in echinoderms.
Ebert, T. A. (San Diego State Univ.). Recruitment in echinoderms.
Marcus, N.H. (Woods Hole Oceanographic Inst.). Phenotypic variability in
echinoderms.
Shick, M. J. (Univ. of Maine). Respiratory gas exchange in echinoderms.
Sprinkle, J. (Univ. of Texas). Patterns and problems in echinoderm evolution.
Valentinovic, T. (Univ. of Ljubljana, Yugoslavia). Innate and learned responses
to external stimuli in echinoderms.

Echinoderms: Present and Past. M. Jangoux (ed.). A. A. Balkema, P. O. Box 1675 Rotterdam, The Netherlands.

Proceedings of the European Colloquium on Echinoderms. Brussels. 1979.

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- Fournier, D. La collection d'oursins fossiles du Muséum de Grenoble (Echinoidea)
- Haude, R. Constructional morphology of the stems of Pentacrinitidae, and mode of life of Seirocrinus.
- Haude, R. A new Mitrate from the Lower/Middle Devonian, and evolutionary reconstruction of Carpod Echinoderms.
- Jefferies, R. P. S. The phylogenetic connection between Echinoderms and Chordates.
- Jensen, M. An alleged stirodont lantern in an irregular Echinoid.
- Mitrović-Petrović, J. La fauna des Echinides de l'Adriatique et son évolution au cours des ères géologiques
- Geys, J. F. Regular Echinoids for the Upper Cretaceous of Belgium and the Netherlands.
- Rose, E. P. F. and J. B. S. Oliver. Australian Jurassic Echinoids and their biogeographical significance.
- Stephenson, D. G. Symmetry and suspension-feeding in Pelmatozoan Echinoderms.
- Termier, H. and G. Termier. Modalités de l'évolution des Echinodermes au Cambrien.
- Zaghib-Turki, D. Les Echinides du Coniacien-Maestrichtien (Cretacé supérieur) de la Tunisie septentrionale.
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- Burkhardt, A. and K. Markel. Statics of the primary spines of Diadematidae.
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- Guille, A. Les Ophiurides des marges continentales de la région Philippines-Indonésie Distribution bathymétrique et étagement.
- Gustato, G. and A. Villari. About the question of the taxonomic status of *Holothuria stellati* Delle Chiaje.
- Feral, J. P. *Neopentadactyla mixta* (Holothurioidea: Phyllophoridae) Spiculation et croissance.
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- Roman, J. Une monographie des Echinides de la Mer Rouge.
- Roux, M. Reflexions concernant la biogéographie et l'écologie des Crinoïdes pédonculés actuels.
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- Schoenmakers, H. J. N. and P. A. Voogt. Biometrical aspects of vitellogenesis in *Asterias rubens*.
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- Sukarno, M. Jangoux & E. van Impe. Le cycle reproducteur annuel de *Psammechinus miliaris* (Gmel) (Echinoidea) en Zeelande.
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Dissertations and Theses

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ECHINODERMS IN LITERATURE

In his dissertation (1975), D.P.B. Smith listed the following references to echinoderms in literature.

Like sharp urchouns his here was growe..
Chaucer, Romaunt of the Rose

Collect those flute-girls -- trash who fluttered ear
With whistlings and fed eye with caper-cuts
While we Lakonians supped black broth or crunched
Sea-urchins, conchs and all, unpricked -- coarse brutes!
Browning, Aristophane's apology

This was the echinoderm, or petrified sea urchin -- they are very beautiful little objects, and they have the added charm that they are very difficult to find ... Perhaps, as a man with time to fill, a born amateur, this is unconsciously what attracted Charles to them; he had scientific reasons, of course, and with fellow hobbyists he would say indignantly that the Echinodermia (sic) had been "shamefully neglected", a familiar justification for spending too much time in too small a field....

John Fowles, The French Lieutenant's Woman.

"I've got some sea-egg spines in my foot. You'll have to get them out somehow..." Bond sank his teeth into the flesh around the spines, bit as softly as he could, and sucked hard... She said, looking seriously up at him, "Do you know, you're the first man who's ever made me cry." She held up her arms and now there was complete surrender.

Ian Fleming, Thunderball.

Let us then regard the world as a large echinus.

A. Conan Doyle, When the World Screamed.

Other references to echinoderms which I have found in the literature:

Otherwise, her attention burned at the starfish shapes. They scuttled back, letting out timid whistles and trills... She identified features, modified to be sure, she had seen illustrated in many works on T-biology. Inside these roughly spheroidal torsos must be skeletons arranged on a plan of intersecting hoops, with ball-and-socket joints for the five limbs.

Poul Anderson. 1974. Fire Time

For two hours that afternoon I felt as if one of the citadels of Vauban in a characteristic starfish outline had been built of solid masonry in my bowels.

Harvey Allen. 1933. Anthony Adverse.

The speciality of the house was seafood and Maigret sampled almost every kind, even some sea urchins flown in that very day from the Midi.

Georges Simenon. 1969. Maigret Hesitates

"Here" he said. "Observed reproductive cycle in one of the echinoderms. Don't bother to try to understand it".

Christopher Priest. 1972. Real-Time World.

The king fended her off from the back of my head which bristles like a sea urchin when she approached.

Saul Bellow. 1976. The Rain King

"She is a born entrepreneur. Imagine, exporting sea urchins! ... they resemble small rocks covered with the quills of a porcupine. Ugly little creatures to look at, but delicious to eat". "You eat them?" Stephen asks. "You Americans, no. But we French adore them. They are very dear in France just now. A great demand and a disappearing supply. My plan is to take them from California -- there are millions of them in the water there -- and fly them fresh every day to France."

Ellen Schwamm. 1978. Adjacent Lives.

The professor was picking at a sea urchin: it smelled putrid and was of no interest.

Patrick White. 1973. The eye of the Storm.

Samantha was loving in the sunlight, spread like a beautiful starfish in the fierce reflected sunlight of the sculptured dunes.

Wilbur Smith. 1979. Hungry as the Sea.

Just after dawn, the plankton that had spent the night close to the surface swam nervously downward, seeking the exact balance of warmth and cold at which they would be most comfortable. By 8 a.m. they hovered in the dark at four thousand feet, a milling stratum hundreds of feet thick: shrimp, marine snails, jellyfish, sea urchins, soft-shelled creatures and hard, but none more than a ten-thousandth of an inch long, all gorging and waiting to be eaten in turn.

John Baxter. 1978. The Hermes Fall.

Beneath her whiskered chin she held an enormous bunch of cactus dahlias as though her head had come to rest in a colony of starfish.

Angus Wilson. 1959. The Middle Age of Mrs. Eliot.

But I did learn how to eat a sea urchin from observing the delicate way she plucked the flesh with her fingers from the center of the bristling shell. Even today I cannot eat a sea urchin without thinking of Artemisia. Although, to be precise, I no longer eat sea urchins. They are too dangerous for the blind .. She kept staring at Mardonius as if she wanted to devour him then and there the way that she had so deftly managed to ingest a series of prickly sea urchins the previous evening.

Gore Vidal. 1981. Creation.

"And went ahead by bringing about virgin births, eh, Doc? I've got to go easy on that angle of it. Post Office regulations, you know." "There's nothing ribald about it, Drake. For centuries we've been able to make the eggs of sea urchins, bees, frogs, et cetera develop without the intervention of male fertilization. The touch of a needle was sometimes enough, or just immersion in the proper salt solution.

Isaac Asimov. 1950. Misbegotten Missionary.

SEA URCHINS AS FOOD IN GREECE

H. Lessios, Smithsonian Tropical Research Institute, APO, Miami, Florida 34002.

The most common sea urchins in the Aegean and Ionian seas are Paracentrotus lividus and Arbacia lixula. The former is extensively used for food, while the latter is avoided. Sphaerechinus granularis is much rarer, but it is occasionally taken as well. Many fishermen believe that A. lixula is the male of P. lividus; they call the former a "monk" due to its jet-black coloration and perhaps absence of gonads during the summer. P. lividus has swollen gonads from May to October, the season that it is usually fished. The breeding season of A. lixula is not common knowledge. Fishermen will say that it never has "eggs", a term used for both male and female gonads, and probably the origin of the assignment of different sexes to the two species. The character fishermen use to tell the two species apart is the covering response of P. lividus. I was often told that urchins that hold a cover are females, while uncovered ones must be males, and hence not worth taking.

Though urchins are consumed in fishing villages, they rarely reach the market, for delays in transportation result in dead specimens with drooping spines that are unlikely to command a good price. There is no extensive commercial fishery for urchins, nothing comparable to those of Japan, France or California.

Urchin gonads are usually eaten raw with olive oil and lemon, either by themselves or in a vegetable salad. Often some of the "juice", i.e. the coelomic fluid, is added to the salad as well.

Proceedings of the International Echinoderms Conference -- Tampa Bay, 1981.

J.M. Lawrence (ed.) A.B. Balkema, Publishers. Rotterdam.

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